Abstract

The present invention provides a spectroscopic method for analysing isotopes which makes it possible to simplify a system for measurement and to identify isotopes with high accuracy and sensitivity and to carry out a quantitative analysis. The spectroscopic method for analysing isotopes by using a semiconductor laser according to the present invention comprises the steps of using a semiconductor laser beam having 2000 nm-wavelength band as a beam source of said wavelengths of said absorption spectra; and using a reference gas for identification of the isotopes, where the gas contains collating components having two wavelengths(W1,W2) of well-known absorption spectra in wavelength band close to the wavelengths(w1,w2) of the absorption spectra of the isotopes.